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(54) TITLE OF THE UTILITY MODEL
LEAD VALVE OF 2-CYCLE ENGINE [2 cycle engine ni okeru lead valve]

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[Amendments : There are no amendments attached to this Kokai Utility Model.
Translator's note]

[Note: All names, addresses, company names, and brand names are translated in the most common manner. Japanese language does not have singular or plural words unless otherwise specified with numeral prefix or plurality suffix. Translator's note]

SPECIFICATION

1. TITLE OF THE UTILITY MODEL

Lead valve of 2-cycle engine

2. CLAIMS

According to the object in which a lead-valve body that is molded with a curvature that is formed at a valve seat side is made to touch a plane where a valve of the valve seat is installed, and initial load is provided to this lead –valve body to secure one end, the lead valve of 2-cycle-engine is characterized by the fact that said lead-valve body is molded of a synthetic resin.

3. DETAILED EXPLANATION OF THE UTILITY MODEL

This utility model pertains to the improvement of a lead-valve of 2-cycle engine.

According to conventional type of lead valves, the one in which metallic elastic plate-made lead-valve body that is molded with a curvature at a valve seat side is made to touch with a plane where a valve of the valve seat is installed, and initial load is provided to this lead-valve body to fasten one end has been already known through the publication of the Utility Model Kokai Sho 55 [1980]-37684.

However, according to this lead valve, the lead-valve body made of metallic elastic plate easily breaks [fractures] by frequent press-contact impulse movements of this lead-valve body and the valve seat, or fatigue that is caused by creep phenomenon and displays a defect of lack of durability.

And therefore, as a result of conducting various means and researches based on the defect of the lead-valve body of said conventional lead valve, this utility model provides improvement by molding the lead-valve body with a curvature at a valve-seat side with a fiber reinforced resin, for instance, glass fiber reinforced resin to allow the characteristics as a lead valve to be displayed by the lead-valve body of this fiber reinforced resin to reduce fatigue caused by frequent press-contact impulse movements against the valve seat to prevent from breakdown phenomenon as best as possible to allow a stable valve function to be displayed in a durable manner.

When constitution of this utility model is explained based on the example that is illustrated in the Figures, at one side part of a valve seat (2) with an arrangement of a through valve hole (1), lead-valve body (3) made of fiber reinforced resin and is formed with a curvature with prescribed angle at the valve seat (2) side and a stopper (4) are fastened firmly at one end side of the valve seat (2) using a securing screw (5) as illustrated in the Figures 1 and 2. In this case, said lead-valve body (3) that is of a synthetic resin that is formed with a curvature, for instance, made of fiber reinforced resin, as illustrated in the Figure 2 is made to touch with the plane (6) where the valve of valve seat (2) is installed, and initial load is provided to this lead-valve body (3) to allow one end part to be screwed into a screw hole (9) of the valve seat (2) via hole (7) of the stopper (4) and hole (8) of the lead-valve body (3) with a securing screw (5) and is secured.

In the case of a lead valve of 2-cycle engine in which a lead-valve body that is formed with a curvature at a valve seat side as described previously is made to touch with a plane where valve of the valve seat is installed, and initial load is provided to this lead-valve body to secure one end, the lead-valve body of this utility model displays a large level of usefulness such as a close adhesion against valve seat (2) by the lead-valve-body (3) that is made of said synthetic resin, excellent gasoline resistance, acid resistance, as best as possible prevention against breakdown phenomenon caused by frequent impact pressure movement [note: the original terms do not use the same term as “frequent press-contact impulse movement” as stated previously, translator’s note] of the conventional metallic elastic plate-made lead-valve body and valve seat and displays very stable valve function in durable manner because lead-valve body (3) is formed with a curvature at the side of valve seat (2) using a synthetic resin and this lead-valve body (3) is made to made to touch with a plane where valve (6) of the valve seat (2) is installed, and initial load is provided to this lead-valve body (3) to firmly secure one end part to the valve seat (2) using a fastening screw (5) to complete engineering work set as a lead valve.

4. BRIEF DESCRIPTION OF THE FIGURES

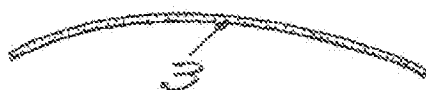
Figures illustrate an example of lead valve of this utility model; and Figure 1 illustrates a frontal view of synthetic resin-made lead valve that is formed with a curvature at valve seat side; and Figure 2 illustrates a partially broken-down frontal view that shows a state where synthetic resin-made lead-valve body during engineering work set of the lead valve that is made to touch with the plane where the valve of valve seat is installed; and Figure 3 illustrates a partially broken-down frontal view that shows a state in which engineering work setting is completed by securing one end part of the synthetic resin-made lead valve body that is formed with a curvature at the valve seat side by providing an initial load to this.

2: valve seat, 3: lead-valve body, 6: plane where valve is installed

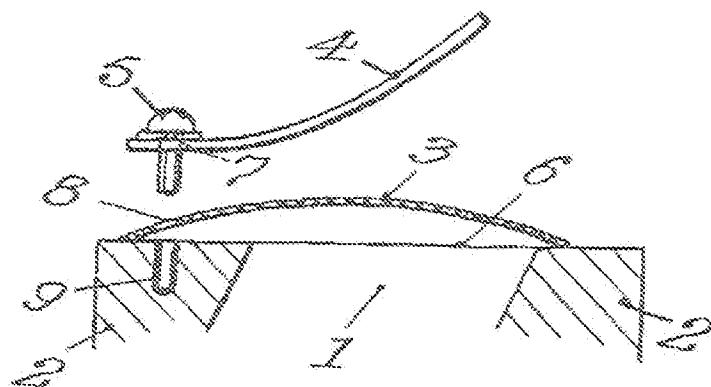
Figures 1 through 3

[I: Figure]

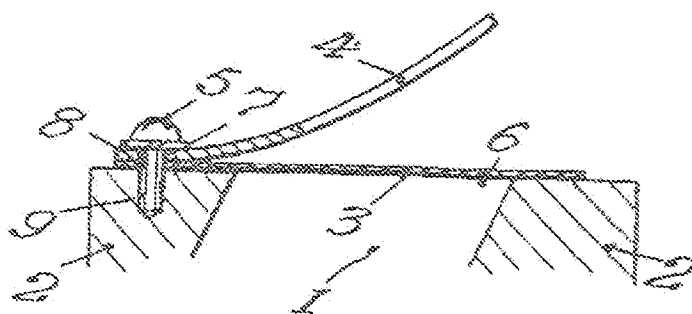
第 1 圖



第 2 圖



第 3 圖



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67468

⑨ 日本国特許庁(JP)

⑩ 実用新案出願公開

⑫ 公開実用新案公報(U)

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審査請求 未請求 (全 頁)

⑭ 考案の名称 2 サイクルエンジンにおけるリードバルブ

⑮ 実 願 昭58-160939

⑯ 出 願 昭58(1983)10月18日

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⑲ 代 理 人 弁理士 藤 井 実

明 細 書

1. 考案の名称

2 サイクルエンジンにおけるリードバルブ

2. 実用新案登録請求の範囲

弁座側に湾曲成形されたリード弁体を弁座の弁装着面に当接させ、このリード弁体に初期荷重を与えて一端を弁座に固着したもののにおいて、前記リード弁体を合成樹脂にて成形したことを特徴とする2サイクルエンジンにおけるリードバルブ。

3. 考案の詳細な説明

この考案は2サイクルエンジンにおけるリード弁の改良に関する。

従来この種リードバルブにおいて弁座側に湾曲成形させた金属弾性板製のリード弁体を弁座の弁装着面に当接させ、このリード弁体に初期荷重を与えて一端を固着したものは実公昭55-37684号公報により公知である。

しかしながら、このリードバルブによると、金属弾性板製のリード弁体は、このリード弁体と、弁座との頻度的圧接衝動作や、クリープ現象によ

り疲労して破断し易く、耐久性に乏しい欠点がある。

そこでこの考案は、前記従来のリードバルブにおけるリード弁体の欠点にかんがみ、種々工夫研究の結果、弁座側に湾曲させたリード弁体を繊維強化樹脂、例えばガラス繊維強化樹脂にて成形し、この繊維強化樹脂性のリード弁体によりリードバルブとしての特性を発揮させ、弁座に対する頻度的圧接衝動作による疲労を軽減し、できる限り破断現象を防止して安定的な弁機能を耐久的に発揮するように改良したものである。

以下この考案の構成を図面に示す実施例について説明すると、弁通孔1を設けた弁座2の一侧部に第1図及び第2図に示すように弁座2側に所定の角度で湾曲形成させた繊維強化樹脂製のリード弁体3とストッパ4とを緊締ネジ5で弁座2の一端に強固に固着する。この場合に第2図に示すように前記湾曲形成した合成樹脂、例えば繊維強化樹脂製のリード弁体3を弁座2の弁装着面6に当接し、このリード弁体3に初期荷重を与えて一

端部を緊締ネジ 5 でストッパ 4 の孔 7 と、リード弁体 3 の孔 8 を介して弁座 2 のネジ孔 9 に螺着して固着する。

この考案によると、前記のように弁座側に湾曲形成されたリード弁体を弁座の弁装着面に当接させ、このリード弁体に初期荷重を与えて一端を固着した 2 サイクルエンジンにおけるリードバルブにおいて、リード弁体 3 を合成樹脂にて弁座 2 側に湾曲形成し、このリード弁体 3 を弁座 2 の弁装着面 6 に当接しこのリード弁体 3 に初期荷重を与えて一端部を緊締ネジ 5 にて弁座 2 に強固に固着し、リードバルブとしてセット工作を完了するので、前記合成樹脂製のリード弁体 3 により弁座 2 に対する密着性と、耐ガソリン、耐酸性に優れ、従来の金属弾性板製のリード弁体と弁座とによる頻度的衝圧作動による破断現象を可及的に防止し、きわめて安定的の弁機能を耐久的に発揮することができなどのリード弁体として実益が大である。

4. 図面の簡単な説明

図はこの考案のリードバルブの実施例を示すもので、第1図は弁座側に湾曲形成した合成樹脂製リード弁の正面図、第2図はリードバルブのセット工作における合成樹脂製リード弁体を弁座の弁装着面に当接した状態を示す一部破断正面図、第3図は弁座側に湾曲形成した合成樹脂製リード弁体に初期荷重を与え一端部を固着してセット工作を完了した状態を示すこの考案のリードバルブの一部破断正面図である。

2・・・弁座、3・・・リード弁体、6・・・弁装着面

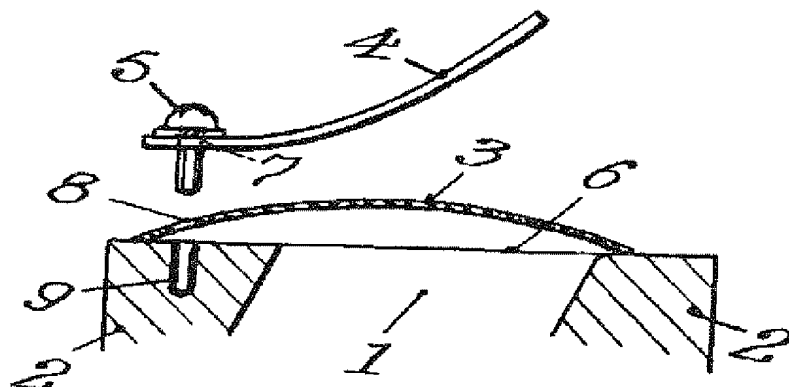
実用新案登録出願人 株式会社 荒井製作所
代 理 人 藤 井



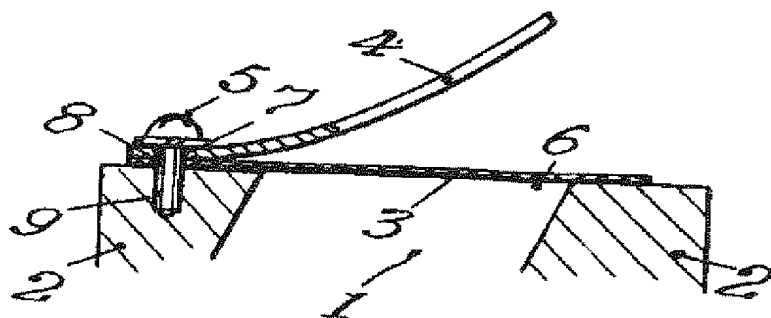
第 1 圖



第 2 圖



第 3 圖



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